

Pierce All Wheel Steering Aerial Tower Functions and Practical Skills



Purpose

Safety is the most important reason to inspect a vehicle. Vehicle components that are overlooked on a preventative maintenance inspection may lead to malfunctioning and equipment failure during emergency responses. The importance of diligent inspections cannot be over emphasized, especially in the wake of liability issues and challenges that confront the new driver. Federal and state laws require that drivers inspect their vehicles.



New Philosophy

We drive our vehicles with the mindset that the other driver will make a mistake in the path of our vehicle.

Our operators will drive proactively by adjusting their driving to avoid collisions triggered by other drivers, traffic, and environmental conditions.



OVERVIEW

- **Levels of Driving**
- **Turning**
- **Maneuvering Vehicle**
- **Tight Quarter Turns**
- **Driver Preparedness**
- **Practical Skills**



Driver Preparedness

- Be alert (“ever vigilant” applies)
- I Forward Look - Distance CRITICAL
 - » Be aware of your surroundings
 - » Where am I going?
 - » Where do I need to be?
- I Forward Look - **What’s coming?**
 - » Traffic Front & Sides
- I Forward Look - **What’s there?**
 - » Fixed Objects
 - » Traffic Control Items (Lights, etc.)
 - » People!!!



Driver Preparedness

- Rearward Look - **What's there?**
 - » Are there people walking?
 - » Are there cars in the next lane?
 - » Where are items in relationship to
- My benchmarks & outswing?
- I Rearward Look - **What's coming?**
 - » Cars approaching
 - » Other fire apparatus approaching
 - » Who will be in my Danger Zones
- **PRE-PLAN!!!**





The BIG Picture

- Drivers of All Steer Fire Apparatus have more to be aware of than drivers of conventional apparatus.
- **They must assume this responsibility and be more responsible during All Steer operation.**



Non-Emergency Driving

- **REMEMBER - YOU control the amount of Rear Steer. Know the Mode you're in!**
- If not needed, drive in a relatively normal fashion and leave in the Normal AWS mode.
- If you don't satisfy the minimum speed requirement (5 MPH) before you reach the 7° cramp of the front wheels you will get minimal or no assist from the rear wheels.



Non-Emergency Driving

- Be less aggressive but use as many lanes as needed to negotiate the turns while keeping other traffic out of the Danger Zones.
- Consider ALL other traffic (including Fire Dept. vehicles) as novice drivers.
- When using AWS always watch out for their unpredicted maneuvers. **STOP** if trouble seems imminent.



Emergency Driving

- **FACT - OVERALL RISKS GO SKY HIGH**
- **FACT - ADRENALINE INCREASES**
- **FACT - YOU REVERT TO YOUR INSTINCTS MORE UNDER STRESSFUL CONDITIONS**
- **REDUCE YOUR SPEED AND INCREASE YOUR SAFETY**
- **Know where the Danger Zones are!!**



Emergency Driving

- Stay closer to the inside of the turn.
- Set yourself up properly.
- Take the required lanes necessary to block traffic from your rear Danger Zones.
- Based upon traffic conditions be ready to change your MODE of AWS.
- Select your switch positions.
- Have front wheels pass center position.
- *Be prepared to STOP to make the mode change effective.*





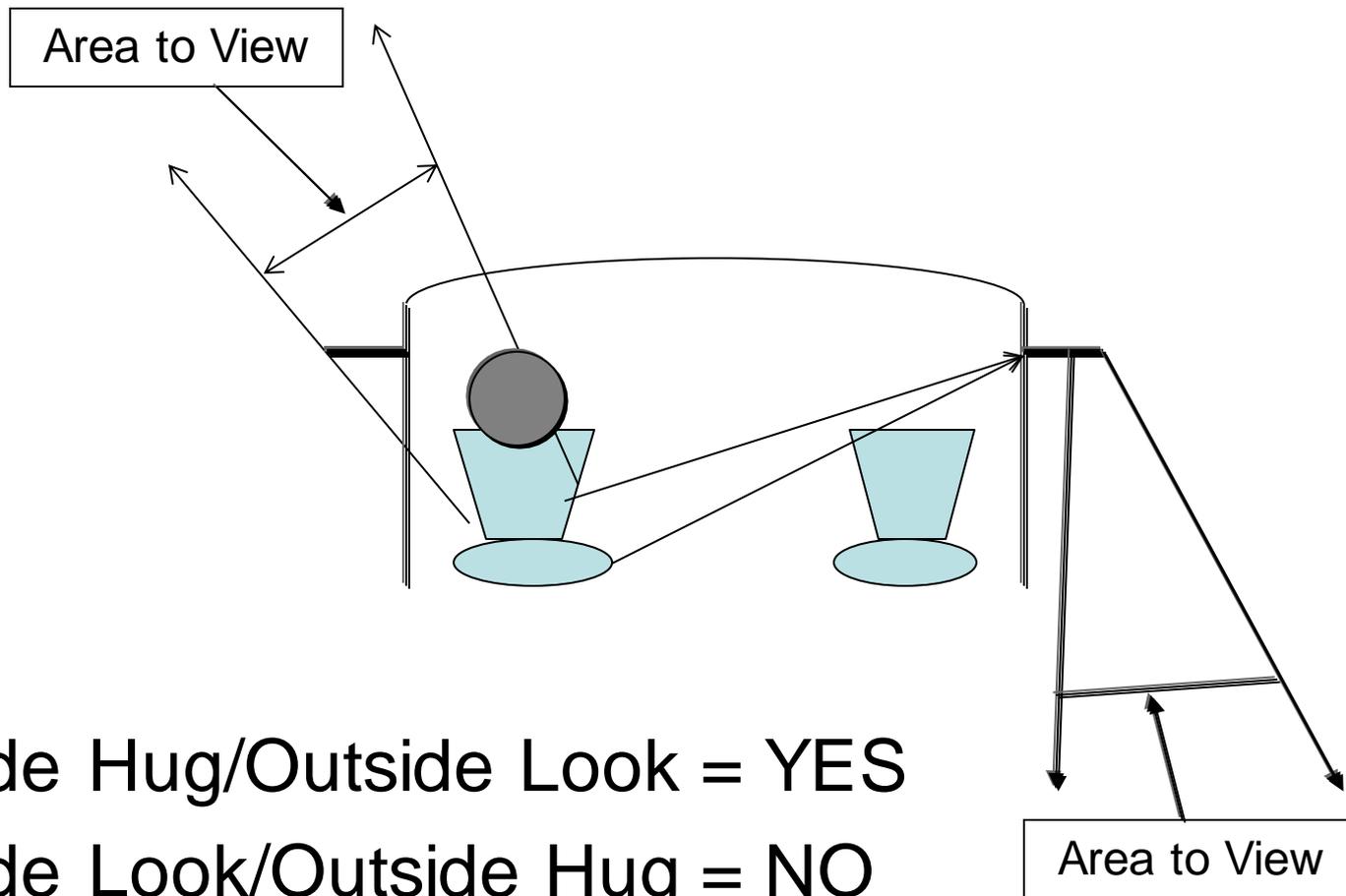
Emergency Driving

- **Your safety outlet is always to STOP. Do NOT take chances. STOP to be SAFE!**





Turning Left



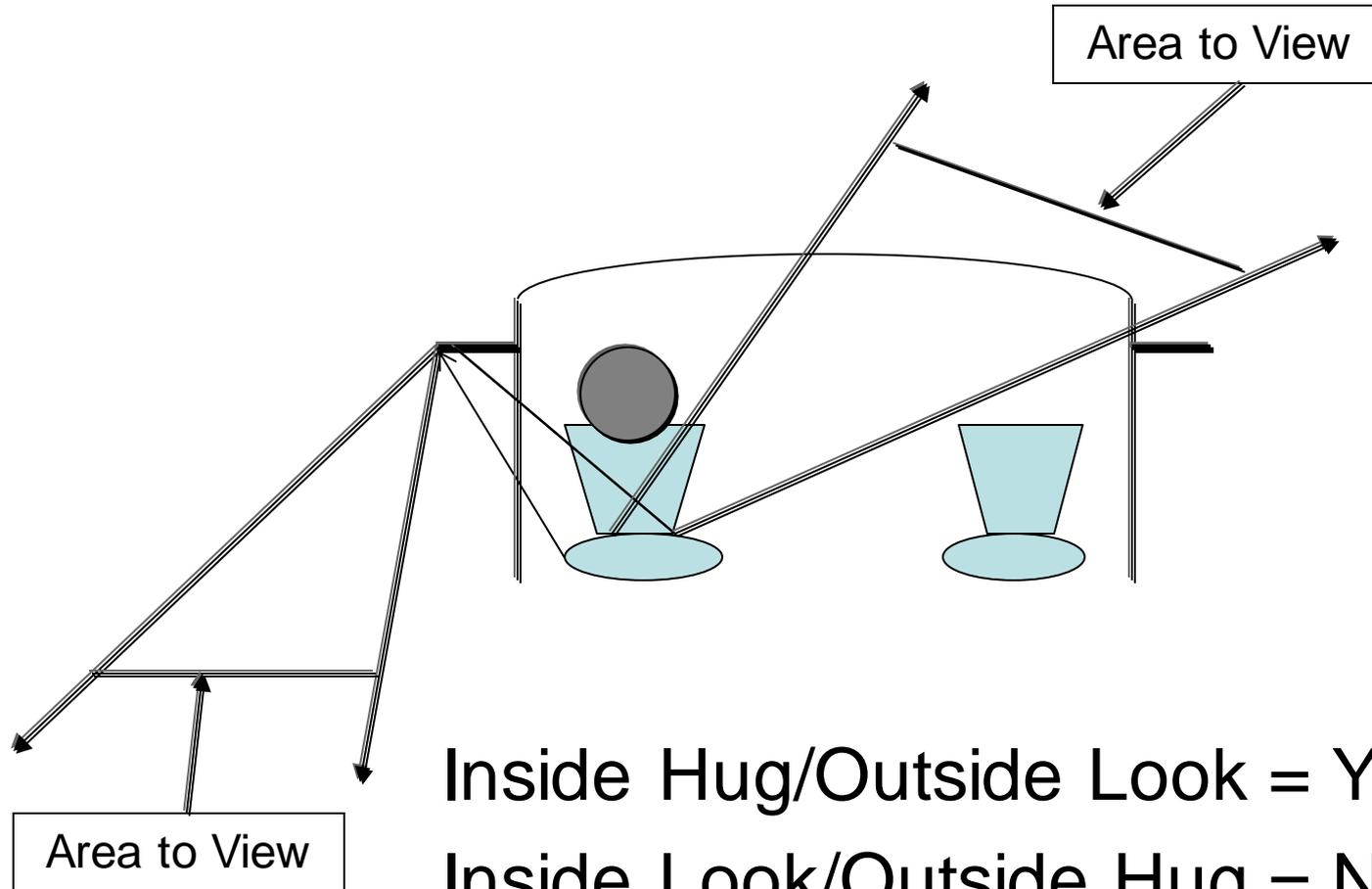
Inside Hug/Outside Look = YES

Inside Look/Outside Hug = NO





Turning Right



Inside Hug/Outside Look = YES
Inside Look/Outside Hug = NO



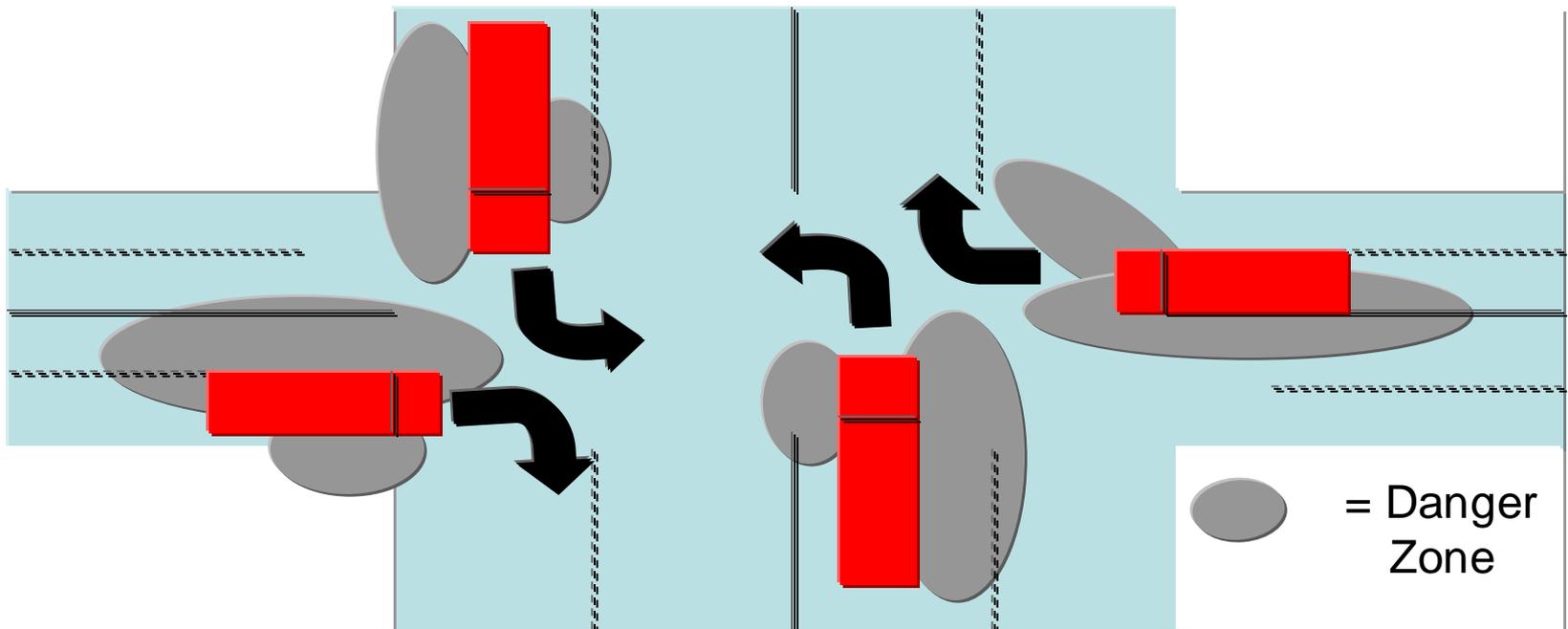
Turning Target Points

- **Know when & where to start turning.**
- **A 10 ft. “buffer zone” on the outside of your turn is generally a safe allowance...but be SURE!**
- **Initiate turns when objects get slightly behind the reference point (typically the rear of the contact point of the front tire).**
- **When below 5 MPH the reference point shifts farther to the rear.**
- **USE SPOTTER(S) IF ANY DOUBT EXISTS!!!**

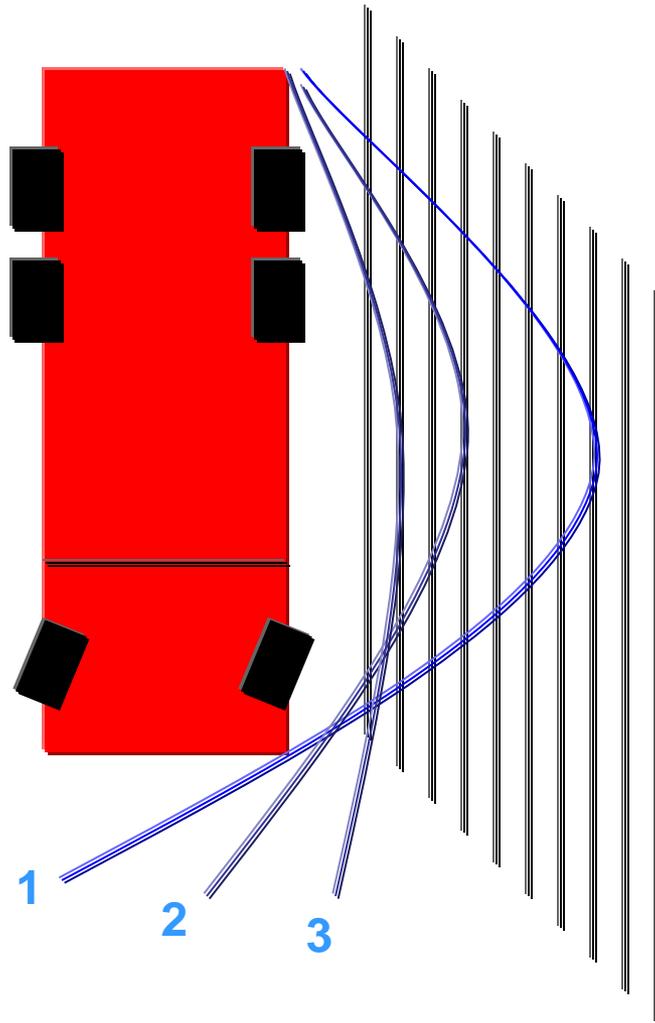


Turning Danger Zones

- Know where they are and why they exist.
- You are the responsible person!



Rear Outswing



1. Fireground Coordinated Outswing up to 8'.
2. Normal AWS Coordinated Outswing up to 4'.
3. Front Steer Only – Rear Steer is Locked. Outswing up to 2'.



Fireground Crab Mode

- **Mode : Front Only, Normal AWS, or Fireground Coordinated AWS**
- **Should not be necessary during normal Fireground operations.**
- **Apparatus is too close to the object to complete a turn without making contact with the object.**
- **STOP !! Then change modes to Fireground Crab.**
- **Turn wheels *FULLY away from object to be cleared***
- **This requires front wheels to pass center and affects the mode change.**



Fireground Crab Mode

- Switch mode back to Fireground Coordinated.
- Let truck idle forward enough to clear object (18" +/-).
- Turn wheels toward object to complete turn around it.
- **NOTE:** Turning back in towards the object after rolling in crab allows you to complete the turn and also causes the front wheels to pass center and effects the mode change from Fireground Crab to Fireground Coordinated.



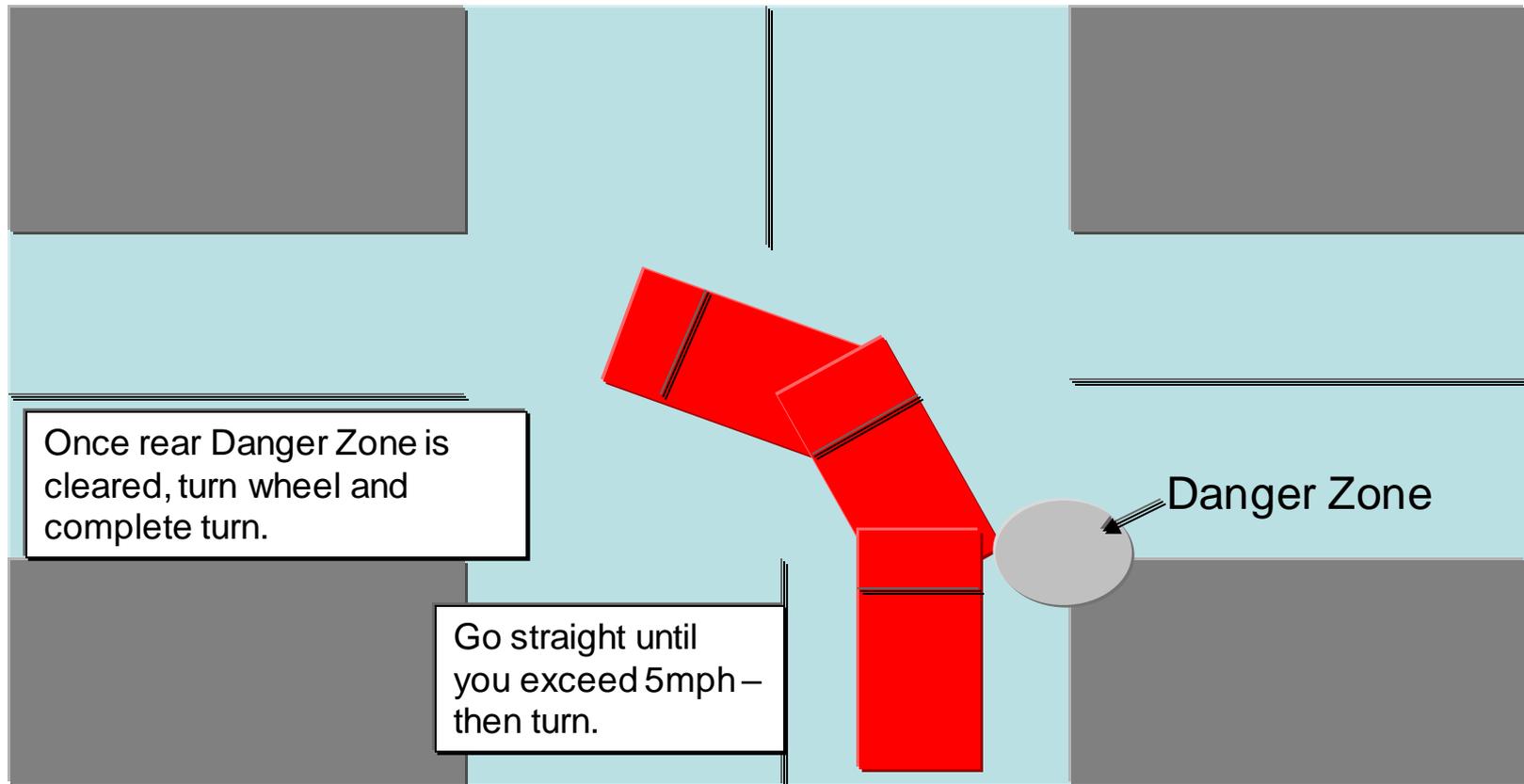
Tight Quarters Turns

- **Two lane/Two lane turn with solid objects on street corners:**
- **Once necessary speed is reached and rear Danger Zone is clear, turn wheel enough to complete turn.**
- **Go straight until you exceed 5 MPH. Then gradually start to turn.**





Tight Quarters Turns



Tight Quarters Turns

- **Alley-Single lane/Alley-Single lane with solid objects on street corners:**
- **Spotters must :**
 - **All get in and out of the cab at the same time**
 - **Always stay in view of driver and/or officer**
 - **Stay out of Danger Zones**
 - **Be able to see the *whole Danger Zone they are responsible for***
- **Stay to inside of turn**
- **STOP & change to Fireground Coordinated AWS**
- **Hug inside of curb as you go around it SLOWLY**
- **Watch destination direction AND opposite side mirror for outswing. Watch Danger Zones.**



Practical Skills

- Learn each of the Oshkosh ALL STEER all-wheel steering system controls.
- Practice 90 degree turns operating in front steer mode.
 - Notice how the rear-end of the vehicle tracks inside of the front and possibly crosses over your traffic lane line toward the inside of a turn.
- Practice 90 degree turns operating in coordinated steer mode.
 - Notice how much tighter the turn can be made. More clearance is needed between your vehicle and any adjacent objects to avoid hitting them due to rear-end swing.



Practical Skills

- Make lane change maneuvers at speeds up to 35 mph in both front steer and coordinated steer modes to learn the handling characteristic of the vehicle.
- Turn the steering wheel right and left through progressively larger angles at speeds ranging from 1 to 10 mph.
- Familiarize yourself with the low speed-coordinated and the low speed-crab steering modes.
- Practice backing the vehicle in each of the available steering modes.
- Practice low speed, panic brake stops and sharp steering maneuvers in both front steer and coordinated steer modes.



Practical Skills

- Outswing Using Cones
- 5MPH/7 Degree Cramp
- Too Tight on an Object on Inside of Turn
- Multi-Mode Switching
- Establishing Benchmarks for Turns
- Where to Look, When to Look, Why to Look
- Danger Zones

